

**Remarks:**

Claims 1-9, 11-12, 19-26, 29-30, 41-52 are pending, as claims 10, 13-18, 27-28, and 31-40 were previously canceled. The Office Action dated February 8, 2006 rejects claims 1-6, 12, 19, 21-24, 30, 41-48, and 51 under 35 USC 103(a) as being obvious over Olszewski (US 2003/0223354) in view of Larsson (US 2004/0233918) and Maltsev (US 2005/0152466). The Office Action further rejects claims 7-8, 25-26, and 49-50 over Olszewski, Larsson and Maltsev in view of Sadri (US 2005/0032514); and further rejects claims 9, 11, 20, 29 and 52 over Olszewski, Larsson and Maltsev in view of Subramanina (US 2001/0031014). Of the pending claims, claims 1, 4, 11, 19, 22, 29, 43, 46 and 52 are independent. The Applicant's previous arguments are characterized in the Office Action as moot in view of the new grounds for rejection.

All rejections of the independent claims rely on the combination of Olszewski, Larsson and Maltsev. The Office Action asserts that Olszewski teaches a group SNR but not an instantaneous group SNR of an equivalent single sub-carrier as a metric for resource allocation, asserting that Larsson teaches a multi-carrier system utilizing an instantaneous SNR that is obvious for performing Olszewski's method while using instantaneous sub-carrier SNR measurements. The Office Action further asserts that Maltsev teaches an equivalent single sub-carrier as a metric for resource allocation at the transmitter.

Each and every rejection relies on the combination of Olszewski, Larsson, and Maltsev. The earliest priority date for Maltsev is seen to be January 12, 2004. By the attached Rule 131 Affidavit, conception by the inventors of the subject application is shown at least as early as December 19, 2003, and diligence is shown between that date and filing of the application on January 16, 2004.

Specifically, Exhibit B is a draft patent application (32 pages) in nearly the same form in which it was filed with the U.S. Patent Office, and shows conception of the claimed invention. Paragraph numbers in the draft of Exhibit B do not match those of the filed application, but the text is nearly identical. Exhibit A (1 page) dates that draft at December 19<sup>th</sup>, 2003. The undersigned attests that the electronic document from which Exhibit B was printed bore a "last

modified" date of December 19, 2003, and is believed to be the electronic document attached to the December 19, 2003 email of Exhibit A. The undersigned attests that Exhibit E (1 page) is a copy of a fax cover page to which were attached both the Declaration of Exhibit C (3 pages) and an assignment from the inventors (also 3 pages, not attached hereto but filed with the application) for this same patent application. The undersigned further attests that Exhibits A, C, D and E are true copies of paper documents retained in the attorney files related to this U.S. patent application, which is referred to interchangeably by docket numbers NC17682 and 873.0135 (with or without various suffixes), and that Exhibit B is a true copy of an electronic document retained in the attorney's electronic archives. The undersigned also attests that subject matter redacted from Exhibits C, D and E relate to personal contact information such as phone numbers, addresses, and email addresses that are not relevant to conception or diligence.

Conception is therefore shown for a date prior to Maltsev's earliest priority date of January 12, 2004, and diligence is shown from that prior date until filing of the present application with the Patent Office on January 16, 2004. Specifically, diligence is shown by Exhibits A (December 21, 2003), C (January 9, 2004) and E (January 13, 2004), with excusable delay of an inventor's vacation shown for the period December 15, 2003 to January 2, 2004 (Exhibit D). Filing the application with the Patent Office is a constructive reduction to practice. Therefore, Maltsev is not valid prior art against this application. As all rejections rely on Maltsev, the rejections are overcome and each of claims 1-9, 11-12, 19-26, 29-30, 41-52 are seen to be patentable over the cited art that remains valid against this application.


The above showing is not to be interpreted as acquiescing in the Examiner's combination of Olszewski with Larsson. Specifically, Larsson is not seen to be relevant to a multi-carrier system, so its mention of instantaneous SNR is not reasonably combinable with Olszewski to teach one of ordinary skill in the art to calculate an instantaneous group SNR using an effective channel function for each user in a group of sub-carriers, as recited in each independent claim. Larsson described multiple-access schemes, but multi-carrier systems are a highly particularized subset of multiple-access schemes. Larsson's instantaneous SNR is described in the context of selecting destination/flow, relay node, and optional link parameters that may be used to determine a cost progress function between forwarding nodes (see Larsson at

paragraphs 0027 and 0124). Larsson does not appear particularly relevant to multi-carrier systems and determining a group SNR, instantaneous or otherwise. Olszewski explicitly uses an SINR derived from an average signal power (see Olszewski at paragraphs 0070 to 0072). Olszewski describes at paragraph 0031 difficulties with burst and non-stationary interference-plus-noise signals, which Olszewski appears to overcome by the use of SINR taken from an averaged rather than instantaneous signal power. To modify Olszewski to use instantaneous SNR rather than determine SINR from an average signal power is beyond ordinary skill in the art because Olszewski teaches away from it, because no reference teaches or suggests an instantaneous group SNR, and such a modification is seen to change Olszewski's principle of operation. One of ordinary skill in the art would not be motivated to use an instantaneous group SNR using an effective channel function for each user in a group of sub-carriers given those teachings, let alone be able to determine such an SNR from those teachings and ordinary skill. Each independent claim recites such an instantaneous SNR, so the rejection to each independent claim is seen as insufficient to render any of those claims obvious even if Maltsev were valid prior art.

The Applicants demur from distinguishing the dependent claims from the cited art at this time, without prejudice or disclaimer.

The Applicant respectfully requests that the Examiner reconsider and withdraw the rejections in light of the above arguments and the objections in light of the above claim amendments, and pass each of claims 1-9, 11-12, 19-26, 29-30 and 41-52 to issue. The undersigned representative welcomes the opportunity to resolve any remaining matters that the Examiner deems appropriate via teleconference.

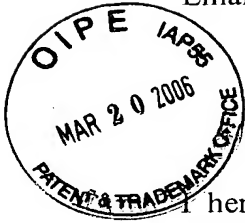
Respectfully submitted:

  
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March 15, 2006  
Date

Appl. No. 10/760,033  
Amendment dated March 15, 2006  
Reply to Office Action dated February 8, 2006

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March 15, 2006  
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